

M. Tech.-II (Electrical -Power System) (CBCS – 2015 Course) :

SUMMER - 2019

SUBJECT: DIGITAL PROTECTION OF POWER SYSTEM

Day: Thursday
Date: 06/06/2019

Time: 11.00 AM TO 02.00 PM
Max Marks: 60

S-2019-3418

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answer to both the sections should be written in **SAME** Answer book.
 - 4) Assume suitable data, if necessary.
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SECTION - I

- Q.1** Describe the functions of various power system components. Explain the applications of relay for each important component. (10)
- OR**
- Q.1** What is the necessity of fast relaying and protection for modern power system? Describe the various methods of protection of power system components. (10)
- Q.2** Explain the relay characteristics by comparison of constant method. Describe the pilot relaying scheme with the help of circuit diagram bringing out the necessity of it. (10)
- OR**
- Q.2** Differentiate between dual input comparator and multi-input comparator (10)
- Q.3** Explain the following terms related with the signal conditioning subsystems (i) Transducer (ii) Analog filtering (iii) Analog multiplexer (10)
- OR**
- Q.3** State the necessity of sample and hold circuit in the power system digital protection scheme bringing out its relevant circuitry. (10)

SECTION – II

- Q.4** Explain how travelling wave is used in digital protection of EHV/ UHV transmission lines. (10)
- OR**
- Q.4** Differentiate digital protection scheme based on hardware and software design bringing out their reliability related problems (10)
- Q.5** Draw and explain the digital protection scheme of synchronous generators. (10)
- OR**
- Q.5** Explain the various protection schemes employed for transformer protection. Bring out the importance of each scheme. (10)
- Q.6** Explain the term “Relay coordination”. State the importance of man- machine interface subsystems. (10)
- OR**
- Q.6** Discuss about the advantages of computer in digital relaying used in power systems. (10)

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